

**EXTRACTION OF BIOACTIVE COMPOUND (MANGIFERIN) FROM
MAHKOTA DEWA FRUITS USING SUBCRITICAL WATER EXTRACTION
PROCESS**

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**BACHELOR OF CHEMICAL ENGINEERING
UNIVERSITI MALAYSIA PAHANG**

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MAHKOTA DEWA FRUITS USING SUBCRITICAL WATER EXTRACTION
PROCESS**

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Thesis submitted in partial fulfilment of the requirements
for the award of the degree of
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**Faculty of Chemical & Natural Resources Engineering
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SUPERVISOR'S DECLARATION

We hereby declare that we have checked this thesis and in our opinion, this thesis is adequate in terms of scope and quality for the award of the degree of Bachelor of Chemical Engineering.

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STUDENT'S DECLARATION

I hereby declare that the work in this thesis is my own except for quotations and summaries which have been duly acknowledged. The thesis has not been accepted for any degree and is not concurrently submitted for award of other degree

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I would like to dedicate this research work to my families, my supervisor Dr. Siti Kholijah Binti Abdul Mudalip and student master for my research supervisor, Dr. Siti Kholijah Binti Abdul Mudalip which is NorMaryam Aini binti Hashim as their work of encouragement and support for me in completing this undergraduate research. Besides that, I would like to thank personally to my research supervisor, Dr. Siti Kholijah Binti Abdul Mudalip and NorMaryam Aini binti Hashim who supported and always give me guidance throughout this journey of completing the undergraduate research study. Lastly, I dedicate this work to Universiti Malaysia Pahang for their given opportunity and experience to me to do my research and completing this thesis as an undergraduate chemical engineering student.

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TABLE OF CONTENTS

	Page
SUPERVISOR’S DECLARATION	ii
STUDENT’S DECLARATION	iii
ACKNOWLEDGEMENT	v
ABSTRACT	vi
ABSTRAK	vii
TABLE OF CONTENTS	viii
LIST OF TABLES	x
LIST OF FIGURES	xi
LIST OF SYMBOLS	xii
LIST OF ABBREVIATIONS	xiii
CHAPTER 1 INTRODUCTION	1
1.1 Background of the Study	1
1.2 Motivation	3
1.3 Problem Statement	5
1.4 Objectives	6
1.5 Scopes of Study	6
CHAPTER 2 LITERATURE REVIEW	7
2.1 Mahkota Dewa	7
2.1.1 Mangiferin	9
2.1.2 Antioxidant compound	10
2.2 Extraction Method	10
2.2.1 Soxhlet Extraction	10
2.2.2 Supercritical Carbon Dioxide	11
2.2.3 Ultrasonic Assisted Extraction	11
2.2.4 Subcritical Water Extraction	12
CHAPTER 3 METHODOLOGY	18
3.1 Materials and Methods	18
3.2 Subcritical Water Extraction Unit	18
3.3 Subcritical Water Extraction Process	19
3.4 High Performance Liquid Chromatography	20
3.5 1,1-Diphenyl-2-picryl hydrazyl (DPPH)	22

CHAPTER 4 RESULTS AND DISCUSSION	23
4.1 The Effect of Solid to Solvent Ratio	23
4.2 The Effect of Extraction temperature	25
4.3 The Effect of Time	26
CHAPTER 5 CONCLUSION AND RECOMMENDATION	28
5.1 Conclusion	28
5.2 Recommendation	28
REFERENCES	30
Appendix	36

LIST OF TABLES

Table No.	Title	Page
Table 2.1:	Phytoconstituents isolated from Mahkota Dewa with their respective biological activity	8
Table 2.2:	Advantages and disadvantages of extraction process	13
Table 2.3:	Summary of Parameter Affecting Subcritical Water Extraction	16
Table 3.1:	summary of process parameter	19

LIST OF FIGURES

Figure No.	Title	Page
Figure 2.1:	Mahkota Dewa showing a typical: (a) green tapering leaves; (b) fruits; (c) wet pulps; and (d) dried pulps	8
Figure 2.2:	Chemical structure of mangiferin	9
Figure 2.3:	Antioxidant compound	10
Figure 3.1:	Schematic diagram of Kiloclave laboratory pressure vessel reactor system, Buchiglasuster	19
Figure 3.2:	HPLC chromatogram of (a) mangiferin standard and (b) Mahkota Dewa extract	21
Figure 4.1:	Effect of different of solid to solvent ratio on (a) mangiferin yield and (b) antioxidant activity. This extraction temperature and extraction time were fixed at 100°C and 5 h, respectively	24
Figure 4.2:	Effect of different of extraction temperature on (a) mangiferin yield and (b) antioxidant activity. This solid to solvent ratio and extraction time were fixed at 60 g/L and 5 h, respectively	26
Figure 4.3:	Effect of different of extraction time on (a) mangiferin yield and (b) antioxidant activity. This solid to solvent ratio and extraction temperature were fixed at 60 g/L and 100°C, respectively	27

LIST OF SYMBOLS

$^{\circ}C$	degree Celcius
g/L	gram per liter
h	hour
mg/L	milligram per liter
$wt/wt\%$	weight per weight percent

LIST OF ABBREVIATIONS

CAM	Complementary and Alternative Medicine
DPPH	1,1-Diphenyl-2-picryl hydrazyl
HPLC	High Performance Liquid Chromatography
ROS	Reaction oxygen species
SCD	Supercritical carbon dioxide
SE	Soxhlet extraction
SWE	Subcritical water extraction
UAE	Ultrasonic assisted extraction